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COMMITTEE ON THE PEACEFUL USES
OF OUTER SPACE

# DRAFT REPORT OF THE SCIENTIFIC AND TECHNICAL SUBCOMMITTEE ON THE WORK OF ITS TWENTY-NINTH SESSION

## INTRODUCTION

1. The Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space held its twenty-ninth session at United Nations Headquarters from 24 February to 5 March 1992 under the chairmanship of Professor J. H. Carver (Australia). On 24 February, the Subcommittee held a special session, open to all Member States of the United Nations, as well as to the general public, commemorating International Space Year, 1992 (ISY).

2. The Subcommittee was composed of the following Member States: Albania, Argentina, Australia, Austria, Belgium, Benin, Brazil, Bulgaria, Burkina Faso, Cameroon, Canada, Chad, Chile, China, Colombia, Czechoslovakia, Ecuador, Egypt, France, Germany, Hungary, India, Indonesia, Iran (Islamic Republic of), Iraq, Italy, Japan, Kenya, Lebanon, Mexico, Mongolia, Morocco, Netherlands, Niger, Nigeria, Pakistan, Philippines, Poland, Portugal, Romania, Russian Federation, Sierra Leone, Sudan, Sweden, Syrian Arab Republic, Turkey, Ukraine, United Kingdom of Great Britain and Northern Ireland, United States of America, Uruguay, Venezuela, Viet Nam and Yugoslavia.

3. Representatives of the Centre for Science and Technology for Development, the Department of Technical Cooperation for Development and the Office of Legal Affairs of the United Nations Secretariat attended the session, as did representatives of the Economic Commission for Africa (ECA) and the Economic and Social Commission for Asia and the Pacific (ESCAP).

4. Representatives of the following specialized agencies attended the session: Food and Agriculture Organization of the United Nations (FAO), United Nations Educational, Scientific and Cultural Organization (UNESCO), World Meteorological Organization (WMO), International Atomic Energy Agency (IAEA) and United Nations Industrial Development Organization (UNIDO).

5. Representatives of the European Space Agency (ESA), the International Telecommunications Satellite Organization (INTELSAT), the Committee on Space Research (COSPAR) of the International Council of Scientific Unions (ICSU), the International Astronautical Federation (IAF) and the International Society for Photogrammetry and Remote Sensing (ISPRS) also attended the session.

6. A list of the representatives of Member States, specialized agencies and other international organizations attending the session is contained in document A/AC.105/C.1/INF/21.

7. The special session to celebrate International Space Year (ISY), sponsored by COSPAR and IAF, was addressed by the Chairman of the Space Agency Forum for International Space Year (SAFISY), Mr. Hubert Curien, Minister of Research and Technology of France, and by Dr. Louis Friedman, Executive Director of the Planetary Society, speaking on "Space Flight and Global Unification". The meeting also included a panel discussion on "Space and the Global Change Programme", with the participation of Mr. Jean-Marie Luton, Director-General of the European Space Agency; Mr. Marcio Nogueira Barbosa, Director-General of the Brazilian Institute for Space Research; Mr. Yoshihiro Ishizawa, Executive Director of the National Aerospace Development Agency of Japan; Mr. John D. Schumacher, Deputy Associate Administrator of the United States National Aeronautics and Space Administration; Mr. M. G. Chandrasekhar, Scientific Secretary of the Indian Space Research Organization; and Mr. Jean-Daniel Levi, Director-General of the Centre National d'Etudes Spatiales of France.

8. In accordance with paragraph 7 (b) (vii) of General Assembly resolution 46/45 of 9 December 1991, a symposium on the theme "Space technology and the Earth's environment" was organized by COSPAR and IAF in liaison with Member States as part of the special session. The symposium was co-chaired by Mr. George Ohring, Chairman of the COSPAR Commission on Space Studies of the Earth's Surface, Meteorology and Climate, and Mr. Dale Fester, Vice President, IAF. The presentations included: "Is the Earth Warming?" by Mr. Thomas R. Karl, Chief, Global Climate Laboratory, National Oceanic and Atmospheric Administration, United States; "Monitoring of Environmental Disasters from Weather Satellites" by Mr. Luo Jibin, Director, Satellite Meteorological Centre, China; "Novel Contributions by ERS-1 and SPOT to World Environmental and Climatological Issues" by Guy Duchossois, ESA ERS-1 Mission Manager; and "The ISY World Forest Watch: Implications for Developing Countries" by Mr. Roberto Da Cunha, Brazilian Institute for Space Research.

9. On 25 February, the Subcommittee adopted the following agenda:

1. Adoption of the agenda.

2. Statement by the Chairman.

3. General exchange of views.

4. United Nations Programme on Space Applications and the coordination of space activities within the United Nations system.

5. Implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space.

6. Matters relating to remote sensing of the Earth by satellites, including, inter alia, applications for developing countries.

7. Use of nuclear power sources in outer space.

8. Questions relating to space transportation systems and their implications for future activities in space.

9. Examination of the physical nature and technical attributes of the geostationary orbit; examination of its utilization and applications, including, inter alia, in the field of space communications, as well as other questions relating to space communications developments, taking particular account of the needs and interests of developing countries.

10. Matters relating to life sciences, including space medicine.

11. Progress in national and international space activities related to the Earth environment, in particular progress in the geosphere-biosphere (global change) programme.

12. Matters relating to planetary exploration.

13. Matters relating to astronomy.

14. The theme fixed for special attention at the 1992 session of the Scientific and Technical Subcommittee: "Space technology and the protection of the Earth's environment: development of endogenous capabilities, in particular in the developing countries and in the context of International Space Year".

15. Other matters.

16. Report to the Committee on the Peaceful Uses of Outer Space.

## Meetings and documentation

10. The Subcommittee held ____ meetings.

11. A list of the documents which were before the Subcommittee is provided in annex I to the present report.

12. Following the adoption of the agenda, the Chairman made a statement outlining the work of the Subcommittee at its current session. He also reviewed the activities of Member States in the field of space exploration, including important advances that had been achieved as a result of international cooperation during the past year.

13. At the 403rd, 405th and 407th meetings, the Chairman informed the Subcommittee that requests had been received from the permanent representatives of Cuba, Greece, Peru, Spain, Yemen and the Libyan Arab Jamahiriya, as well as from the Permanent Observer for the Holy See, to attend the session. Following past practice, those delegations were invited to attend the current session of the Subcommittee and to address it as appropriate. This was without prejudice to further requests of that nature and did not involve any decision of the Subcommittee concerning status, but was a courtesy that the Subcommittee extended to those delegations.

14. General statements were made by the following delegations: Argentina, Austria, Brazil, Bulgaria, Canada, China, Cuba, Czechoslovakia, Egypt, Germany, Hungary, India, Indonesia, Iran (Islamic Republic of), Nigeria, Pakistan, Poland, Romania, Russian Federation, Sweden, Turkey, United States of America and Uruguay. Statements were also made by the representatives of COSPAR, IAF, WMO, FAO, ISPRS and INTELSAT.

15. At the 403rd meeting, the Chief of the Outer Space Affairs Division made a statement reviewing the work programme of the Division. At the 405th meeting, the Expert on Space Applications made a statement outlining the activities carried out and planned under the United Nations Programme on Space Applications.

## Technical presentations

16. During the course of session, scientific and technical presentations were made by Professor Nejat Ince, Director, Marmara Centre for Scientific and Industrial Research, Turkey, on "Alternatives to geostationary orbits"; by the astronauts Dr. Norman Thagard (United States), Dr. Roberta Bondar (Canada), and Dr. Ulf Merbold (ESA) on the International Microgravity Laboratory mission; by Dr. Thomas Carroll, Director of the National Hydrology Remote Sensing Center, Office of Hydrology, United States National Weather Service, on "Remote Sensing Technology Used in Hydrology"; by Dr. M. G. Chandrasekhar, Scientific Secretary of the Indian Space Research Organization (ISRO), on "Remote Sensing for Sustainable Village Development in India"; by Ms. M. C. Durand, Canadian Space Agency, on "The Global Change Encyclopedia"; by Dr. Arnauld Nicogossian of the United States National Aeronautics and Space Administration (NASA), on space life science research; by Mr. Greg Wilson, United States, on monitoring the Earth's environment; by Mr. Carl Picher, United States, on space exploration; by Mr. Jeff Bennett, United States, on "Mission to the Universe"; and by Mr. M. G. Chandrasekhar on space debris.

## Recommendations of the Scientific and Technical Subcommittee

17. After considering the various items before it, the Subcommittee, at its ____th meeting, on ___ March 1992, adopted its report to the Committee on the Peaceful Uses of Outer Space containing its views and recommendations as set out in the paragraphs below.

I. UNITED NATIONS PROGRAMME ON SPACE APPLICATIONS AND THE COORDINATION OF SPACE ACTIVITIES WITHIN THE UNITED NATIONS SYSTEM

II. IMPLEMENTATION OF THE RECOMMENDATIONS OF THE SECOND UNITED NATIONS CONFERENCE ON THE EXPLORATION AND PEACEFUL USES OF OUTER SPACE

18. In accordance with General Assembly resolution 46/45, the Subcommittee continued its consideration of these items. In accordance with past practice, the Subcommittee considered the two items jointly.

19. The Subcommittee noted that the General Assembly, in paragraph 13 of resolution 46/45, had once again emphasized the urgency and importance of implementing fully the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE 82) as early as possible. The Subcommittee also took note of paragraph 8 of the same resolution, in which the General Assembly had stated that, in the context of the Subcommittee's consideration of the item, it was particularly urgent to implement the following recommendations:

"(a) All countries should have the opportunity to use the techniques resulting from medical studies in space;

"(b) Data banks at the national and regional levels should be strengthened and expanded and an international space information service should be established to function as a centre of coordination;

"(c) The United Nations should support the creation of adequate training centres at the regional level, linked, whenever possible, to institutions implementing space programmes; necessary funding for the development of such centres should be made available through financial institutions;

"(d) The United Nations should organize a fellowship programme through which selected graduates or postgraduates from developing countries should get in-depth, long-term exposure to space technology or applications; it is also desirable to encourage the availability of opportunities for such exposure on other bilateral and multilateral bases outside the United Nations system."

20. In response to the recommendations of the Working Group of the Whole to Evaluate the Implementation of the Recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space contained in its report on the work of its fifth session, held in 1991 (A/AC.105/483, annex II, paras. 4, 5 and 6), which were endorsed by the General Assembly in paragraph 10 of resolution 46/45, the Subcommittee had before it the following documents: a report on international cooperation in the peaceful uses of outer space: activities of Member States (A/AC.105/505), containing information submitted by Member States in response to

paragraphs 4 (b) and 4 (h) of the report of the Working Group; a study on applications of space technology to integrated land and water resources management for rural development (A/AC.105/490), in response to paragraph 6 (b) (i); a review of the applications of space technology to the study of desertification in developing countries (A/AC.105/501), in response to paragraph 6 (b) (iv); and a report on the implementation of the recommendations of UNISPACE 82 (A/AC.105/504), in response to paragraph 5. In addition, the Subcommittee had before it annual reports, including information in response to paragraph 4 (c), submitted by the following international organizations: the European Space Agency (A/AC.105/506), the World Meteorological Organization (A/AC.105/507), INTELSAT (A/AC.105/508), the European Telecommunications Satellite Organization (EUTELSAT) (A/AC.105/509), the Council on International Cooperation in the Study and Utilization of Outer Space (INTERCOSMOS) (A/AC.105/511), the International Maritime Satellite Organization (INMARSAT) (A/AC.105/512) and the International Telecommunication Union (ITU).

21. In accordance with paragraph 9 of General Assembly resolution 46/45, the Subcommittee reconvened the Working Group of the Whole with a view to improving the execution of activities relating to international cooperation, particularly those included in the United Nations Programme on Space Applications, and to proposing concrete steps to increase such cooperation as well as to make it more efficient. The Working Group was chaired by Mr. Muhammad Nasim Shah (Pakistan); it held ____ meetings between 27 February and ___ March 1992 and adopted its report (A/AC.105/C.1/WG.6/L.7) on ___ March 1992.

22. Having considered the report of the Working Group of the Whole, the Subcommittee decided at its ____th meeting, on __ March 1992, to adopt that report, as contained in annex II to the present report, on the understanding that the recommendations contained therein would be carried out in accordance with paragraph 9 of General Assembly resolution 37/90 of 10 December 1982. The Subcommittee recommended that the Working Group of the Whole be reconvened the next year to continue its work.

## A. United Nations Programme on Space Applications

23. Regarding the expanded United Nations Programme on Space Applications, the Subcommittee had before it the report of the United Nations Expert on Space Applications (A/AC.105/497). The report was supplemented by the statement by the Expert. The Subcommittee noted that the Programme on Space Applications for 1991 had been carried out satisfactorily and commended the work accomplished by the Expert in carrying out the work programme as endorsed by the Subcommittee at its last session.

24. The Subcommittee noted with appreciation that since its last session additional contributions had been offered by various Member States and organizations and that they had been acknowledged with appreciation in paragraph 42 of the Expert's report.

25. In this connection, the Subcommittee continued to express its concern over the limited financial resources available for carrying out the Programme and appealed to Member States to support the Programme through voluntary contributions. The Subcommittee felt that the limited resources of the United Nations should be focused on the highest priority activities and noted that the Programme on Space Applications was the priority activity of the Outer Space Affairs Division.

## 1. 1991-1992

### (a) Long-range fellowships for in-depth training

26. The Subcommittee expressed its appreciation to the Governments of Austria, Brazil and China as well as to ESA for having offered training fellowships for the period 1991-1992, as shown in annex II to the Expert's report (A/AC.105/497). The Subcommittee noted with appreciation that the offers of fellowships were to be continued for 1992-1993 by the same Governments and organization, as indicated by the Expert in his report.

27. The Subcommittee noted that it was important to increase the opportunities for in-depth education in all areas of space science, technology and applications through long-term fellowships.

### (b) Technical advisory services

28. The Subcommittee took note of the technical advisory services being provided by the Outer Space Affairs Division in support of regional space applications projects, as indicated in the report of the Expert:

(a) Collaboration with ESA on a survey and field review of projects that could benefit from remote sensing data being made available by ESA to African countries covered by ESA's two remote sensing ground receiving stations at Maspalomas, Canary Islands, Spain and Fucino, Italy;

(b) Assistance to the Government of Ecuador in promoting regional use of the remote sensing ground receiving station at Cotopaxi, Ecuador;

(c) Assistance to the Government of Chile for the preparations of the Second Space Conference of the Americas.

### (c) United Nations workshops and training courses

29. With regard to the activities of the Programme carried out in 1991, the Subcommittee expressed its appreciation to:

(a) The Government of India for co-sponsoring the United Nations/ESA Workshop on Basic Space Science for Development, hosted by the Indian Space Research Organization at Bangalore, India, from 30 April to 3 May 1991;

(b) The Government of Spain, as well as FAO and ESA, for co-sponsoring the United Nations/FAO/ESA Workshop on Microwave Remote Sensing Technology, hosted by the Instituto Nacional de Técnica Aeroespacial (INTA) at the Maspalomas Space Station, Canary Islands, Spain, from 10 to 14 June 1991;

(c) The Government of China, as well as ESCAP and the Office of the United Nations Disaster Relief Coordinator (UNDRO), for co-sponsoring the United Nations/ESCAP/UNDRO Workshop on the Application of Space Techniques to Combat Natural Disasters, hosted by the State Science and Technology Commission of China at Beijing from 23 to 27 September 1991;

(d) The Government of the United States for co-sponsoring the International Training Course on Remote Sensing Applications for Environmental Assessment and Monitoring, hosted by the United States Geological Survey at Sioux Falls, South Dakota, from 9 September to 4 October 1991;

(e) The Government of Germany, as well as ESA and the Carl Duisberg Society, Berlin, for co-sponsoring the Third United Nations International Training Course on Remote Sensing Applications to Geological Sciences, hosted by the Central Institute of the Physics of the Earth, Potsdam, and the Free University of Berlin from 7 to 25 October 1991;

(f) The Government of Peru, as well as WMO and ESA, for co-sponsoring the Sixth United Nations/WMO/ESA Training Course on the Use of Visible, Infrared and Radar Sensor Systems in Hydrological and Agrometeorological Applications, hosted by the Comision Nacional de Investigacion y Desarrollo Aeroespacial at Lima from 7 to 25 October 1991.

30. The Subcommittee also noted that the United Nations, through the Programme on Space Applications, had co-sponsored and financially supported the United Nations/ECA/FAO/United Nations Environment Programme (UNEP) Regional Workshop on Remote Sensing and Geographic Information Systems for African Decision-Makers, organized in cooperation with the Government of Kenya and held at Nairobi from 26 to 30 August 1991.

31. The Subcommittee took note of the status of the 1992 programme of United Nations workshops, training courses and conferences, which included the following activities, as described in paragraph 28 of the Expert's report:

(a) A United Nations Workshop on Space Technology for Resource Development and Environment Management, to be organized in cooperation with the Governments of Ecuador and Japan for the benefit of States members of the Economic Commission for Latin America and the Caribbean (ECLAC) and to be held at Quito from 9 to 13 March 1992;

(b) The Second United Nations/Sweden Training Course on Remote Senisng Education for Educators, to be organized in cooperation with the Government of Sweden and held at Stockholm and Kiruna, Sweden, from 11 May to 12 June 1992;

(c) A United Nations/ESA/Planetary Society Workshop on Basic Space Science for Development, to be organized in cooperation with the Government of Costa Rica and held at San José in July 1992;

(d) A United Nations International Conference on Satellite Remote Sensing for Resource Management, Environmental Assessment and Global Change Studies, to be organized in cooperation with the Government of the United States and held at Boulder, Colorado, from 17 to 21 August 1992;

(e) The Seventh United Nations/FAO/WMO/ESA Training Course on the Use of Visible, Infrared and Radar Systems in Hydrological and Agrometeorological Applications, to be organized for the benefit of States members of ECA and the Economic and Social Commission for Western Asia (ESCWA) and held at the Regional Centre for Services in Surveying, Mapping and Remote Sensing (RCSSMRS) at Nairobi in September/October 1992;

(f) The Fourth United Nations Training Course on Remote Sensing Applications to Geological Sciences, to be organized in cooperation with the Government of Germany and the Carl Duisberg Society, Berlin, and hosted by the Central Institute for Physics of the Earth, Potsdam, and the Free University of Berlin in October 1992;

(g) A United Nations Conference on Communications Technology for Development, to be organized for the benefit of ESCAP member States in November 1992.

(d) Promotion of greater cooperation in space science and technology

32. The Subcommittee noted that, in conjunction with the 42nd IAF Congress held at Montreal, Canada, from 6 to 11 October 1991, the United Nations, through the Programme on Space Applications and in cooperation with the Government of Canada and IAF, had organized a pre-Congress Workshop on Space Technologies for Development from 2 to 5 October 1991, and that during the IAF Congress, the United Nations and IAF had co-sponsored a Special Session on Space Technology for Agricultural Management. The Subcommittee also noted that the United Nations had supported the participation of an expert from Argentina in the Fifth Symposium of the Society of Latin American Specialists in Remote Sensing, held at Cuzco, Peru, from 28 October to 1 November 1991.

33. The Subcommittee further noted that in 1992 the United Nations, through the Programme on Space Applications, would co-sponsor the following activities: a United Nations/COSPAR/IAF Symposium on Space Technologies in Developing Countries - Making It Happen, to be held in Washington from 28 to 30 August in conjunction with the World Space Congress; and a United Nations/ISPRS Workshop on Data Analysis, Methods and Applications, to be held in Washington on 6 and 7 August in conjunction with the 17th Congress of ISPRS.

## 2. 1993

### United Nations workshops, training courses, seminars and conferences

34. The Subcommittee recommended the approval of the following programme of workshops, training courses, seminars and conferences proposed for 1993:

(a) United Nations Seminar on Communications for Development, for the benefit of countries in the Mediterranean and adjacent areas, to be held at Athens;

(b) United Nations Workshop on the Use of Space Techniques for Monitoring and Control of the Desert Environment, for the benefit of ESCWA member States;

(c) United Nations Regional Conference on Space Technology for Sustainable Development, for the benefit of ESCAP member States, to be held at Jakarta;

(d) International Training Course on Communications Technology for Devlopment;

(e) Regional Training Course on Communications Technology for Development;

(f) United Nations/ECA Space Conference on Africa: Addressing Africa's Management Needs;

(g) United Nations Regional Workshop on Basic Space Science in Development Programmes, for the benefit of ECA member States;

(h) United Nations/UNDRO Regional Workshop on Space Technology to Combat Natural Disasters, for the benefit of member States in the ECLAC region;

(i) United Nations/Indian Ocean Marine Affairs Cooperation (IOMAC) Workshop on Space Technology and Applications for Marine Resources, for the benefit of Member States in the Indian Ocean region.

## B. International space information service

35. The Subcommittee noted with satisfaction that the Outer Space Affairs Division was in the process of developing an international space information system, including both information within the United Nations system and access to external databases.

36. The Subcommittee noted with satisfaction the publication of the document entitled "Seminars of the United Nations Programme on Space Applications: Selected Papers on Remote Sensing, Satellite Communications and Space Science"

(A/AC.105/492). It also noted that the Secretariat was preparing updated editions of the Directory on Education, Training, Research and Fellowship Opportunities in Space Science and Technology and its Applications (A/AC.105/432), the Directory of Information Systems on Space Science and Technology (A/AC.105/397/Rev.1 and Add.1) and Space Activities of the United Nations and International Organizations (A/AC.105/358) for publication during International Space Year.

## C. Reports

37. The Subcommittee noted with appreciation the reports submitted to it in response to the recommendations of the Working Group of the Whole in its report on the work of its fifth session (A/AC.105/483, annex II, paras. 4, 5 and 6). It noted in particular the technical studies prepared by the Secretariat on space applications for integrated land and water resources management for rural development (A/AC.105/490) and the review of applications of space technology to the study of desertification in developing countries (A/AC.105/501).

## D. Coordination of space activities within the United Nations system and inter-agency cooperation

38. The Subcommittee noted that the General Assembly, in resolution 46/45, had reaffirmed its request that all organs, organizations and bodies of the United Nations system and other intergovernmental organizations working in the field of outer space or on space-related matters should cooperate in the implementation of the recommendations of UNISPACE 82.

39. The Subcommittee noted with satisfaction that the Inter-Agency Meeting on Outer Space Activities had been convened by the Administrative Committee on Coordination (ACC) at Geneva and hosted by UNDRO from 18 to 20 September 1991 and that its report (ACC/1991/PG/12) was before the Subcommittee. The Subcommittee took note of the information provided on the progress achieved in coordinating the space activities of the organizations of the United Nations system and expressed its appreciation for the report of the Secretary-General entitled "Coordination of outer space activities within the United Nations system: programmes of work for 1992 and 1993 and future years" (A/AC.105/491).

40. The Subcommittee continued to stress the necessity of ensuring continuous and effective consultations and coordination in the field of outer space activities among organizations within the United Nations system and the avoidance of duplication of activities.

## E. Regional and interregional mechanisms of cooperation

41. The Subcommittee noted that the General Assembly, in its resolution 46/45, had reaffirmed its approval of the recommendation of UNISPACE 82 regarding the establishment and strengthening of regional mechanisms of

cooperation and their promotion and creation through the United Nations system. The Subcommittee noted with satisfaction that, in carrying out various activities in the implementation of the recommendations of UNISPACE 82, the Secretariat had sought to strengthen those mechanisms.

42. The Subcommittee noted with appreciation the efforts undertaken as part of the United Nations Programme on Space Applications, in accordance with the UNISPACE 82 recommendation concerning the development of indigenous capabilities, to establish regional centres for space science and technology education in existing national or regional educational institutions in developing countries, as outlined in the report entitled "Centres for Space Science and Technology - a progress report" (A/AC.105/498). The Subcommittee noted with appreciation the offers by a number of Member States to host a regional centre and urged other Member States to support the centres. The Subcommittee requested the Outer Space Affairs Division to make every possible effort to obtain the support of other relevant international organizations and requested that it be kept informed of further developments on the subject.

43. The Subcommittee took note of the contributions made by other international organizations towards the promotion of international cooperation in space activities: FAO was continuing its activities relating to remote sensing of renewable natural resources, including training courses, support of development projects and monitoring environmental conditions for the FAO Early Warning System on Food and Agriculture; ITU was continuing its work in the international coordination of space communications, including planning the 1992 World Administrative Radio Conference, providing technical assistance to developing countries and assisting in the development of the Regional African Satellite Communication System (RASCOM); WMO was continuing international cooperative programmes using space technology, including the World Weather Watch and the Tropical Cyclone Programme; INMARSAT was continuing to develop its satellite communication system for maritime, land-mobile and aeronautical communications, including the development of small, low-cost terminals and the provision of technical assistance and training; INTELSAT was further developing its system for international satellite communications, including its programmes for training and technical assistance; ESA was continuing its programme of international cooperative space activities, including training programmes for the benefit of developing countries, support of the activities of the United Nations Programme on Space Applications and technical assistance projects.

44. The Subcommittee took note of the Agreement on Joint Activities in the Study and Utilization of Outer Space signed by the members of Commonwealth of Independent States and submitted to the Subcommittee by the Russian Federation (A/AC.105/C.1/L.179). The Subcommittee noted with appreciation the support provided to the United Nations Programme on Space Applications by the former Soviet Union and expressed the hope that such support would be continued by the States members of the Commonwealth of Independent States.

45. The Subcommittee emphasized the importance of regional and international cooperation in making the benefits of space technology available to all countries, through such cooperative activities as shared payloads, dissemination of information on spin-off benefits, ensuring compatibility of space systems and providing access to launch capabilities at reasonable cost.

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